AIR QUALITY STUDY

I-5 CORRIDOR IMPROVEMENT PROJECT

TECHNICAL ADDENDUM 0.1

$PM_{2.5}$ ANALYSIS

State of California
Department of Transportation
District 7
Division of Environmental Planning

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LSA Project No. CDT532B

TABLE OF CONTENTS

TABLES

FIGURES

INTRODUCTION

LSA Associates, Inc. (LSA) has prepared this Air Quality Technical Addendum for the I-5 Corridor Improvement Project in response to the United States Environmental Protection Agency (EPA) releasing new $PM_{2.5}$[1] hot-spot analysis requirements in its March 10, 2006 final transportation conformity rule (71 FR 12468) (March 2006 Final Rule). This March 2006 Final Rule supersedes the Federal Highway Administration's (FHWA) existing September 12, 2001, "Guidance for Qualitative Project-Level: Hot-spot Analysis in PM_{10} Nonattainment and Maintenance Areas," and establishes requirements for conducting qualitative analyses for projects of air quality concern (POAQC) in PM_{10} and $PM_{2.5}$ nonattainment or maintenance areas. This technical addendum addresses a qualitative analysis for $PM_{2.5}$ only as a qualitative analysis for PM_{10} has already been conducted prior to the March 2006 Final Rule. This technical addendum has been prepared following the procedures and methodology provided in the "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" (EPA/FHWA Guidance) (EPA, 2006a), developed by the EPA and the FHWA; and other project-specific guidance provided by the Interagency Consultation in March 2007. This technical addendum is an addendum to the Air Quality Analysis for the Interstate 5 (I-5) Corridor Improvement project dated September 2005; and reference is made for historical meteorological and climatic data discussions pertaining to the South Coast Air Basin (SCAB) in which the project is located.

PM2.5 HOT-SPOT METHODOLOGY

The March 2006 Final Rule establishes the transportation conformity criteria and procedures for determining which transportation projects must be analyzed for local air quality impacts in $PM_{2.5}$ nonattainment and maintenance areas. The proposed project is located in the SCAB, which has been designated as a federal nonattainment area for $PM_{2.5}$; and is considered to meet the criteria for a POAQC as defined in the March 2006 Final Rule. The project, therefore, requires a hot-spot analysis.

A hot-spot analysis is defined in the Code of Federal Regulations (CFR) (40 CFR 93.101) as an estimation of likely future localized $PM_{2.5}$ pollutant concentrations and a comparison of those concentrations to the relevant air quality standards. A project-level hot-spot analysis assesses the air quality impacts on a scale smaller than an entire nonattainment or maintenance area, including, for example, congested roadway intersections and highways or transit terminals. Such an analysis is a means of demonstrating that a transportation project meets Clean Air Act (CAA) conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts. When a hot-spot analysis is required, it is included within the project-level conformity determination that is made by the FHWA or the Federal Transit Administration (FTA).

[1] Particulate matter less than 2.5 microns in diameter.

Clean Air Act Section 176(c)(1)(B) is the statutory criterion that must be met by all projects in nonattainment and maintenance areas that are subject to transportation conformity. Section 176(c)(1)(B) states that federally supported transportation projects must not "cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area."

Ambient Air Quality Standards (AAQS)

$PM_{2.5}$ nonattainment and maintenance areas are required to attain and maintain two standards:

- 24-hour standard: 65 micrograms per cubic meter ($\mu g/m^3$) (Based on 2004–2006 monitored data, the EPA tightened the $PM_{2.5}$ 24-hour standard from 65 to 35 $\mu g/m^3$ with an effective date of December 2006. New area designations are anticipated to become effective early 2010 [EPA, 2006b], and this project-level $PM_{2.5}$ qualitative analysis considers the 1997 $PM_{2.5}$ standards because these are the standards upon which the current $PM_{2.5}$ nonattainment designations were based.)

- Annual standard: 15.0 $\mu g/m^3$

The current 24-hour standard is based on a 3-year average of the 98th percentile of 24-hour $PM_{2.5}$ concentrations; the current annual standard is based on a 3-year average of annual mean $PM_{2.5}$ concentrations. A $PM_{2.5}$ hot-spot analysis must consider both standards unless it is determined for a given area that meeting the controlling standard would ensure that Clean Air Act requirements are met for both standards. A previous version of this technical addendum was reviewed via the Interagency Consultation and comments were provided. This technical addendum has been prepared to incorporate those comments in addition to the requirements identified in the EPA/FHWA Guidance.

PM2.5 HOT-SPOT ANALYSIS

Projects of Air Quality Concern (POAQC)

The first step in the hot-spot analysis is to determine whether a project meets the criteria for a POAQC. The EPA specified in 40 CFR 93.123(b)(1) of the 2006 Final Rule that POAQC are certain highway and transit projects that involve significant levels of diesel vehicle traffic, or any other project that is identified in the $PM_{2.5}$ State Implementation Plan (SIP) as a localized air quality concern. The March 2006 Final Rule defines the POAQC that require a $PM_{2.5}$ hot-spot analysis in 40 CFR 93.123(b)(1) as:

i. New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

ii. Projects affecting intersections that are at Level-of-Service D, E, or F with a significant number of diesel vehicles, or those that will change to Level-of-Service D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project;

iii. New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

iv. Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

v. Projects in or affecting locations, areas, or categories of sites which are identified in the $PM_{2.5}$ and PM_{10} applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.

Proposed Project

This $PM_{2.5}$ analysis addresses improvements to the I-5 approximately from SR-91 to I-605 including the following components identified in the RTP and the RTIP: I-5 HOV widening project (RTIP project ID# LA0D73) from the Los Angeles-Orange County line to approximately I-605, and the Orange County segment from SR-91 to the Los Angeles-Orange County line (ID# 10167).

Four build alternatives and a No-Build Alternative are being considered for the project. The five alternatives are:

- Alternative 1: No Build Alternative (includes I-5 Interim HOV Improvements)
- Alternative 2: Transportation Systems Management/Transportation Demand Management
- Alternative 3: Transit Enhancement
- Alternative 4: 10-Lane Facility
  - 4A: Four mixed-flow lanes and 1 HOV lane—Modified MIS Alignment
  - 4B: Four mixed-flow lanes and 1 HOV lane—Value Analysis Alignment
- Alternative 5: 12-Lane Facility
  - 5A: Alternative 4A plus either 1 mixed-flow or 1 HOV lane—Modified 12-lane Alternative
  - 5B: Alternative 4B plus either 1 mixed-flow or 1 HOV lane—Value Analysis 12-lane Alternative

Alternatives 1, 2, and 3 do not propose any physical changes to the I-5 corridor and are anticipated to result in the same project-level emissions trend. The other alternatives, Alternatives 4 and 5, however, propose adding two or more lanes to the existing facility and are anticipated to result in increases in traffic capacity; and thereby considered to meet the criteria of the Item i above. Therefore, this project is considered to be a POAQC, and this qualitative project-level $PM_{2.5}$ hot-spot analysis has been conducted to assess whether the project would cause or contribute to any new localized $PM_{2.5}$ violations, or increase the

frequency or severity of any existing violations, or delay timely attainment of the $PM_{2.5}$ AAQS.

Types of Emissions Considered

In accordance with the EPA/FHWA Guidance, this hot-spot analysis is based only on directly emitted $PM_{2.5}$ emissions. Tailpipe, brake wear, and tire wear $PM_{2.5}$ emissions will be considered in this hot-spot analysis.

Vehicles cause dust from paved and unpaved roads to be re-entrained, or re-suspended, in the atmosphere. According to the March 2006 final rule, road dust emissions are only to be considered in $PM_{2.5}$ hot-spot analyses if the EPA or the state air agency has made a finding that such emissions are a significant contributor to the $PM_{2.5}$ air quality problem (40 CFR 93.102(b)(3)). In the Draft 2007 Air Quality Management Plan (Draft AQMP) prepared by the South Coast Air Quality Management District (SCAQMD), it is indicated that the paved road dust accounts for approximately 23% in 2002 to 26% estimated in 2020 of all the Top Ten ranked directly emitted $PM_{2.5}$ emissions. The Draft AQMP also indicates that the top ten categories represent 80% of the total directly emitted $PM_{2.5}$ inventory, which, in turn, only accounts for about 25% of all ambient $PM_{2.5}$. As a result, the paved road dust only accounts for approximately 4.6% in 2002 to 5.2% in 2020 of all ambient $PM_{2.5}$ according to the Draft AQMP. The findings in this Draft AQMP have not been finalized by California Air Resources Board (ARB), and therefore, the paved road dust $PM_{2.5}$ is not considered in this analysis.

Secondary particles formed through $PM_{2.5}$ precursor emissions from a transportation project take several hours to form in the atmosphere giving emissions time to disperse beyond the immediate project area of concern for localized analyses; therefore, they will not be considered in this hot-spot analysis. Secondary emissions of $PM_{2.5}$ are considered as part of the regional emission analysis prepared for the conforming Regional Transportation Plan (RTP) and Federal Transportation Improvement Program (FTIP).

According to the project schedules, the construction will not last more than 5 years, and construction-related emissions may be considered temporary; therefore, any construction-related $PM_{2.5}$ emissions due to this project will not be included in this hot-spot analysis. This project will comply with the South Coast Air Quality Management District (SCAQMD) Fugitive Dust Rules for any fugitive dusts emitted during the construction of this project. Excavation, transportation, placement, and handling of excavated soils will result in no visible dust migration. A water truck or tank will be available within the project limits at all times to suppress and control the migration of fugitive dusts from earthwork operations.

Analysis Method

According to the EPA/FHWA Guidance, a simple comparison of the future localized $PM_{2.5}$ pollutant concentrations with existing highway or transit facilities in similar locations is

suggested as a means of demonstrating that a project will meet statutory conformity requirements. This methodology involves reviewing air quality monitoring data near transportation facilities that are similar to the existing or those proposed by this project. An analysis following this approach is conducted below with two air quality monitoring stations within the same air basin, both of which are adjacent to transportation facilities similar to the existing and/or proposed I-5 corridor currently under study. This analysis also examines the current and future air quality discussed in the Draft AQMP as it pertains to this project in an effort to predict future conditions in the project vicinity as well as to identify the likelihood of these impacts interacting with the ambient $PM_{2.5}$ levels to cause hotspots.

Based on the comments received by the Interagency Consultation, another approach is also suggested to consider a project specific $PM_{2.5}$ emission trend. As indicated in the preambles of the March 2007 Final Rule, quantitative analyses for $PM_{2.5}$ or PM_{10} will not be required until appropriate methods and modeling guidance becomes available. With the lack of such methods and modeling guidance at the time of this analysis, simple estimates of $PM_{2.5}$ emissions have been developed based on the emission inventory module developed by the ARB and the existing and projected traffic data. An analysis according to this approach is discussed below.

Ambient $PM_{2.5}$ Concentrations and Future Air Quality

Due to the extensive length of this project, ambient $PM_{2.5}$ concentration data from two air monitoring stations, the Anaheim-Pampas Lane Station and at the Los Angeles-North Main St. Station, were used in comparing the current and estimating the future localized $PM_{2.5}$ pollutant concentrations as affected by the proposed project. While the Los Angeles-North Main St. Station is located approximately 0.6 mile from the I-5, the Anaheim-Pampas Lane Station is located less than 0.25 mile from the I-5 just south of the proposed project. The segments of I-5 to which these two air monitoring stations are adjacently located, currently carry the following roadway traffic according to the Caltrans and University of Berkeley Freeway Performance Measurement System:

Table A: Roadway Traffic in the Vicinity of the Air Quality Stations

Station	Total Vehicle AADT	3 + Axle AADT	Total % Truck
LA-Main Street Station (close to I - 5, PM 18.45 Jct. Rte 10)	238,000	13,237	5.6
Anaheim Station (close to I - 5, PM 38.915 Lincoln Ave)	213,000	7,709	3.6
I-5 within the proposed project limits (from SR-91 to I-605)	141,000 to 228,000	8,617 to 11,634	4.5 to 5.1

Source: Caltrans Traffic and Vehicle Data Systems Unit, March 2007 and Freeway Performance Measurement System http://pems.eecs.berkeley.edu/?district_id=7&dnode=District

As indicated in Table A, portions of the proposed I-5 project limits, currently experience volumes less than or comparable to those portions of I-5 further south or north where the monitoring stations are located. Percentages and volumes of trucks carried along the portions of I-5 adjacent to the monitoring stations are higher at the LA-Main station, but lower at the Anaheim-Pampas station. In overall, the traffic data within the project limits of I-5 seem to fall between the ranges of those experienced by the two monitoring stations.

The readily available aerials indicate that the Anaheim-Pampas station is located in an area with mixed land use as light industrial/commercial and residential while the LA-Main Street Station is located in an area with primarily industrial uses. The land use pattern along the proposed I-5 project limits, as indicated in the Environmental Impact Report/Statement (EIR/S), include primarily residential, but also contains scattered large-scale regional commercial uses, as well as pockets of industrial development.

Table A suggests that the level of traffic currently experienced within the project limits are represented in a range by those levels of traffic exerted by the segments of I-5 just south and further north of I-5 where the monitoring stations are located nearby, with comparable surrounding land uses. As a result, the ambient $PM_{2.5}$ concentration data measured at those monitoring stations are deemed representative for comparison to the proposed project; and are summarized in Table B below.

Table B: Ambient $PM_{2.5}$ Monitoring Data

	2001	2002	2003	2004	2005	2006
Anaheim-Pampas Lane AQ Station						
3-year average 98th percentile	64.0	58.0	53.3	49.3	47.3	43.7
Exceeds federal 24-hour standard (65 g/m3)?	No	No	No	No	No	No
National Annual average	NA	18.6	17.3	16.8	14.7	NA
Exceeds federal annual average standard (15 µg/m3)?	NA	Yes	Yes	Yes	No	NA
Los Angeles-North Main St. AQ Station						
3-year average 98th percentile	61.0	62.0	58.0	60.7	60.3	53.3
Exceeds federal 24-hour standard (65 µg/m3)?	No	No	No	No	No	No
National Annual average	22.8	22.0	21.3	19.7	17.8	NA
Exceeds federal annual average standard (15 µg/m3)?	Yes	Yes	Yes	Yes	Yes	NA

EPA Web: http://www.epa.gov/air/data/monvals.html?st~CA~California, March 2007.
NA = Data not available.

These data indicate that the federal 24-hour $PM_{2.5}$ AAQS (65 µg/m^3 based on the 1997 standard upon which the current designation is based) has not been exceeded at both monitoring stations in the last 6 years. The national annual average $PM_{2.5}$ AAQS has been exceeded several times within the last six years with only the Anaheim-Pampas monitoring station having experienced an annual average concentration less than the AAQS in 2005 as illustrated in Figure A. These monitoring data are consistent with the discussion in the Draft AQMP where Figure ES-2 (attached to this technical addendum as Figure B), annual average concentration compared to the federal standard, indicates that much of the coastal areas of Los Angeles and Orange Counties are below or in the range of meeting the federal national annual average standard. The Anaheim-Pampas monitoring station is indicated as part of such an area that is below or in the range of meeting the standard while the LA-Main monitoring station is indicated as slightly above the standard.

Table B, however, does seem to indicate that the ambient annual average concentrations experienced at both monitoring stations, are on a decreasing trend as illustrated in Figure A. The trend is also consistently identified when the isopleth map included in the 2003 Final AQMP (included in this document as Figure C) is compared to Figure B below. A simple comparison of the two isopleth maps indicate that the project area has achieved a significant decrease in ambient $PM_{2.5}$ annual average concentrations from 2001 to 2005.

Figures D and E illustrate an attempt to project these ambient $PM_{2.5}$ concentrations currently experienced at both monitoring stations to the future years, utilizing an exponential function. Figures D and E indicate that, based on the historical ambient $PM_{2.5}$ concentrations experienced at both monitoring stations, a constant and declining trend is anticipated in the future years , including the opening year of the proposed facility in 2015, the current regional planning horizon year of 2030, and the design year of 2035. This declining trend is also prevalent in the discussions in the Draft AQMP, which indicates that a reduction below the current federal annual average standard will be achieved in Los Angeles (approximately 14 ug/m3) and Anaheim (12 ug/m3) by as early as 2015, the opening year for the proposed facilities.

The Draft AQMP also includes discussions of a declining trend exhibited in the future 24-hour average design concentrations in Los Angeles and Anaheim, and indicates that the future federal 24-hour standard of 35 ug/m3 would be achieved in Anaheim (31 ug/m3) by as early as 2015. The future $PM_{2.5}$ 24-hour average design concentrations in Los Angeles (42 ug/m3), although a declining trend is apparent, would still exceed the future federal 24-hour standard in 2021. The Draft AQMP indicates that the following future ambient concentrations are anticipated in LA by 2021: annual average of 13 ug/m3 and 24-hr concentration of 40 ug/m3. The Draft AQMP also indicates that the following future ambient concentrations are anticipated in Anaheim by 2021: annual average of 11 ug/m3 and 24-hr concentration of 31 ug/m3. The Initial Attainment SIP submittal to the EPA is anticipated in April 2008.

Current Traffic Conditions

Existing average daily traffic volumes, truck percentage, and average daily truck volumes for I-5 within the project limits are shown in Table A. Future traffic data have been projected based on the scope of each of the project Alternatives, except Alternatives 2 and 3, because they do not propose any physical improvements or alterations to the existing facilities that warrant consideration in estimating project-level emissions. Alternatives 2 and 3 are anticipated to result in the same emissions as the No-Build alternative in a project-level basis. Table A indicates that the facility currently experiences truck volumes in a range of 8,617 to 11,634, or 4.5% to 5.1% of the total volume, considering those trucks with 3 or more axles, which typically utilize diesel fuel. In terms of traffic congestion experienced by motorists, the traffic analysis for this project described the facility as operating at LOS F. LOS F indicates that typical motorists would experience traffic congestion for more than 15 minutes but less than 1 hour during peak hours.

Traffic Changes Due to the Proposed Project

The proposed project is a freeway widening project that increases the capacity of I-5 for Alternatives 4 through 5. This type of project improves freeway mainline and interchange operations by reducing traffic congestion and improving ingress/egress movements. Tables C and D summarize traffic volumes and speeds projected for various alternatives. Traffic projections were conducted for over 20 individual segments within the project limits. The future projections in Tables C and D are shown as averages over different numbers of peak hours determined based on the speed forecasts for each segment. However, volumes and speed data for each segment were individually accounted for when the $PM_{2.5}$ emissions were estimated. As identified in Tables C and D, the Build Alternatives 4 and 5 would generally result in improvements in vehicle speeds. This improvement, in spite of the increase in traffic volumes, is anticipated due to the increase in capacity and operations efficiency. It is also noted that the improvement in the northbound (NB) traffic is not as apparent as that in the southbound (SB) potentially due to traffic slowdowns just north of I-605 where the proposed project terminates and the number of lanes is reduced in the NB direction.

Table C: I-5 Traffic Volumes and Speeds in 2015

	Southbound				Northbound			
	ADT		Speed		ADT		Speed	
	Total	Truck	Peak	Off-Pk	Total	Truck	Peak	Off-Pk
No-Build and Alt. 2 & 3	75,549	6,809	26	65	81,932	5,368	34	65
Alt. 4A, 4B (4+1)	98,703	7,869	59	65	99,043	5,955	33	65
Alt. 5A (4+2)	99,482	7,828	59	65	94,059	5,531	41	65
Alt. 5B (5+1)	100,725	8,072	58	65	102,181	6,097	39	65

Table D: I-5 Traffic Volumes and Speeds in 2035

	Southbound				Northbound			
	ADT		Speed		ADT		Speed	
	Total	Truck	Peak	Off-Pk	Total	Truck	Peak	Off-Pk
No-Build and Alt. 2 & 3	75,994	6,902	25	65	83,183	5,483	33	65
Alt. 4A, 4B (4+1)	110,212	8,931	58	65	111,600	6,796	37	65
Alt. 5A (4+2)	111,185	9,042	58	65	110,780	6,758	35	65
Alt. 5B (5+1)	113,626	9,288	58	65	119,127	7,250	36	65

ARB's emission inventory, EMFAC2002, was utilized in estimating future project-level $PM_{2.5}$ emissions for the project alternatives, which are summarized in Table E below. $PM_{2.5}$ emissions have also been estimated for the current traffic conditions and are included in Table E.

Table E: Existing and Future $PM_{2.5}$ Emissions by Project Alternatives (lb/day)

	Existing	Opening, 2015	Design, 2035
No-Build	110	144	133
Alternative 4A, 4B (4 MF + 1 HOV)		116	118
Alternative 5A (4 MF + 2 HOV)		108	117
Alternative 5B (5 MF + 1 HOV)		116	128

This summary of $PM_{2.5}$ emissions in Table E indicates that the implementation of proposed project Alternatives 4 through 5 would result in reduction of $PM_{2.5}$ emissions. It should also be noted that this reduction in $PM_{2.5}$ emissions has resulted despite the overall increase in the truck and total volumes within the project limits exhibited for the Alternatives 4 through 5. The addition of HOV lane(s) in SB and NB would accommodate primarily gasoline-fueled light duty and alternative fueled (typically CNG or LNG) transit vehicles. State and local transit fleet rules essentially prohibit the acquisition of diesel-powered transit vehicles for use in the SCAB.

The exponential projections of historical data and the future air quality discussed in the Draft AQMP indicate a decline in $PM_{2.5}$ ambient concentrations by 2015 and 2021; and/or by 2035.

The $PM_{2.5}$ emissions estimated in Table E builds on this future air quality discussion and indicate that further reduction in the future ambient $PM_{2.5}$ concentrations may potentially result when the Build Alternatives (4A, 4B, 5A, or 5B) are implemented.

CONCLUSIONS

Transportation conformity is required under CAA Section 176(c) to ensure that federally supported highway and transit project activities are consistent with the purpose of the SIP. Conformity to the purpose of the SIP means that transportation activities will not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant AAQS. As required by the March 10, 2006 final rule, this qualitative $PM_{2.5}$ hot-spot analysis demonstrates that this project meets the CAA conformity requirements to support state and local air quality goals with respect to potential localized air quality impacts.

It is not anticipated that changes to $PM_{2.5}$ emissions levels associated with the proposed project would result in a new violation; but, rather it is anticipated that the proposed project would potentially result in further reduction of $PM_{2.5}$ emissions due to the improvements in traffic operations.

Federal regulations and the State's Diesel Risk Reduction Plan require future diesel vehicles to have substantially cleaner engines and to use fuels with lower sulfur contents. These federal and state requirements would help further the reduction in the future $PM_{2.5}$ emissions by essentially lowering per-vehicle $PM_{2.5}$ emissions for each of the diesel vehicles.

The historical meteorological and climatic data, monitored $PM_{2.5}$ emissions data and their declining trends, current and projected traffic data, current and projected $PM_{2.5}$ emissions estimates, and the Federal regulations and the State's Plan, support the assertion that the project would not cause new air quality violations, worsen existing violations, or delay timely attainment of the relevant AAQS. Activities of this project should, therefore, be considered that they are consistent with the purpose of the SIP and it should be determined that this project conforms to the requirements of the CAA.

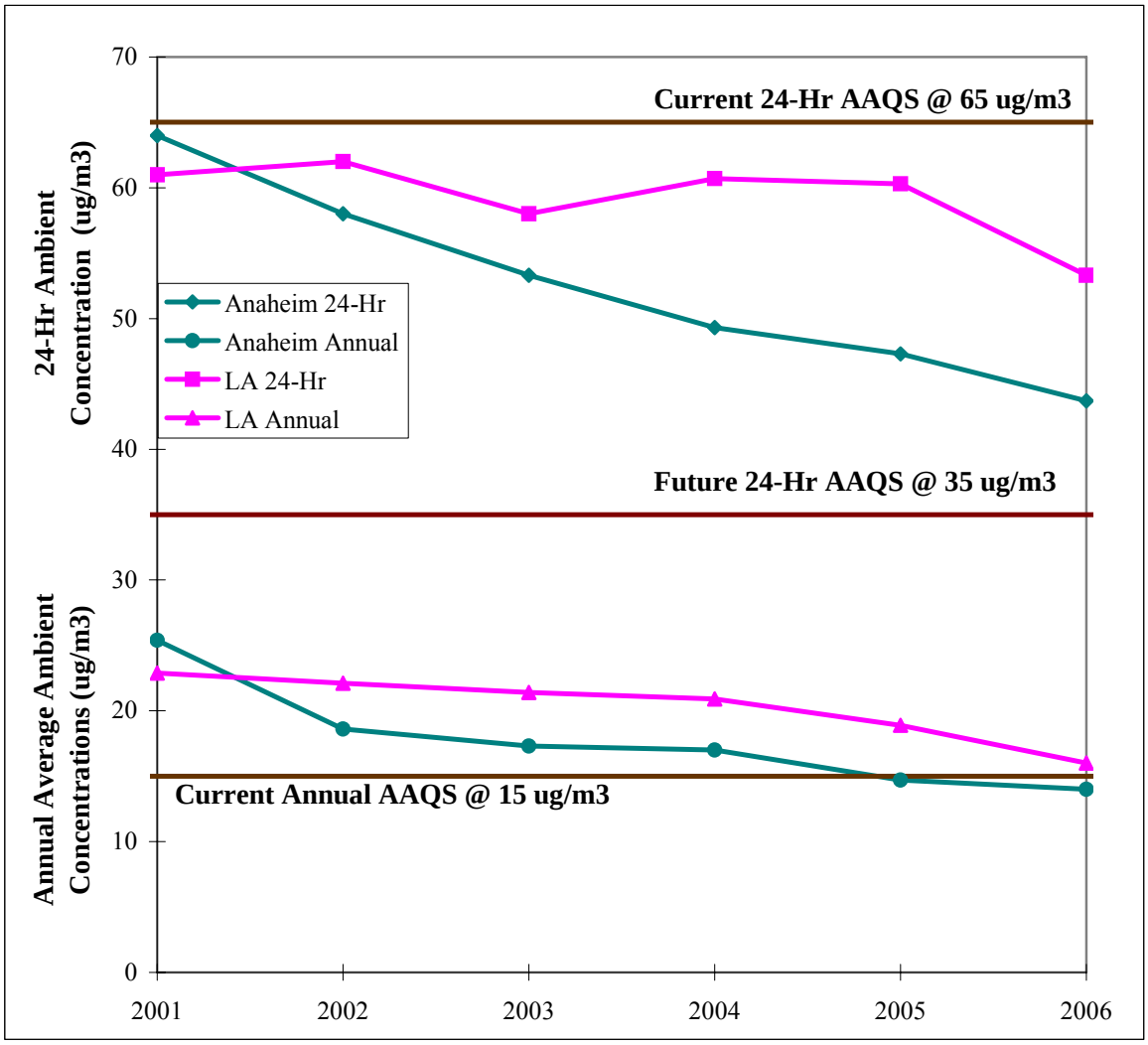
REFERENCES

United States Environmental Protection Agency (EPA). 2006a. "Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in $PM_{2.5}$ and PM_{10} Nonattainment and Maintenance Areas" (EPA 420-B-06-902, March 2006).

EPA. 2006b. Final Revisions to the National Ambient Air Quality Standards for Particulate Pollution (Particulate Matter). EPA Web site: www.epa.gov/oar/particulatepollution/naaqsrev2006.html accessed on March 19, 2007.

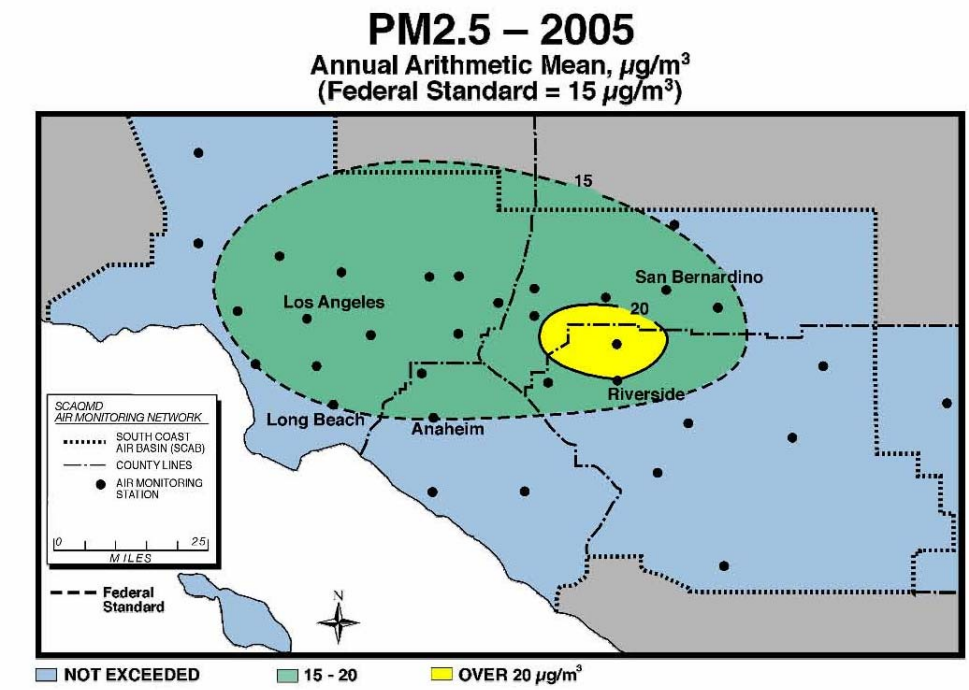
Figures

Figure A: Ambient $PM_{2.5}$ Monitoring Data



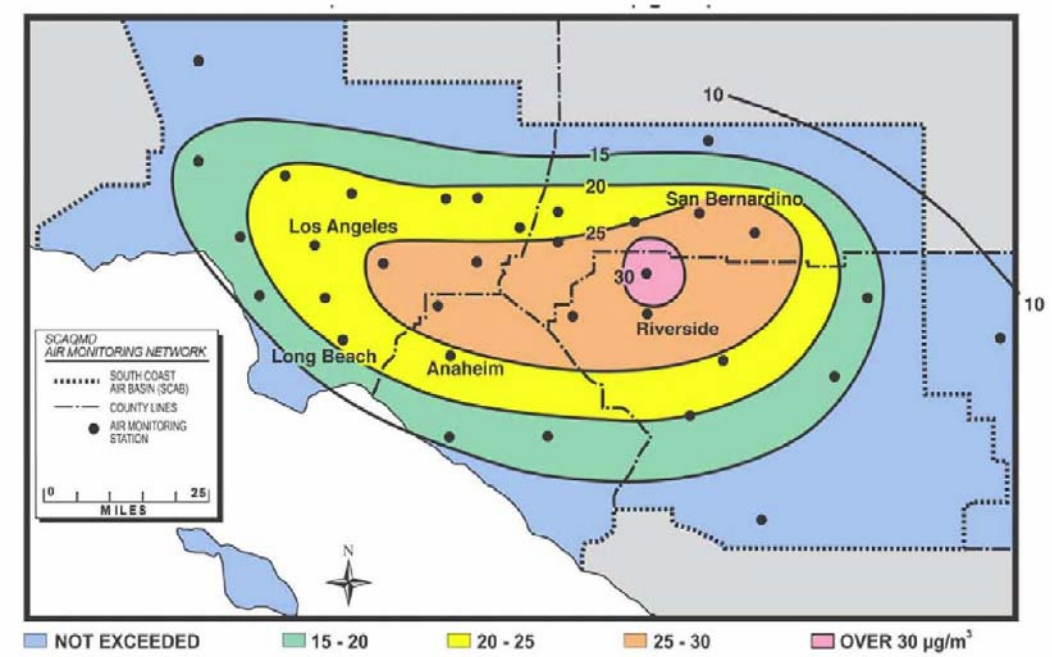
EPA Web: http://www.epa.gov/air/data/monvals.html?st~CA~California, March 2007.

Figure B: Annual Average Concentration Data Excerpt from Draft AQMP



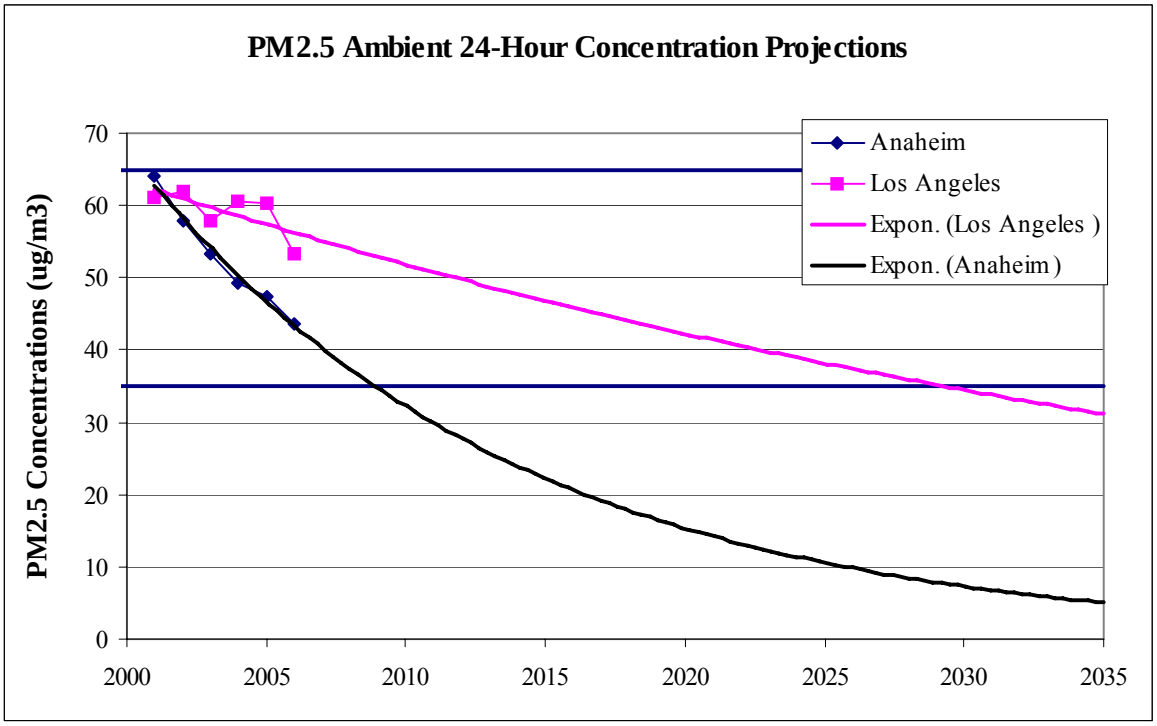
AQMD Web: http://aqmd.gov/aqmp/07aqmp/07AQMP.html

Figure C: Annual Average Concentration Data Excerpt from Final 2003 AQMP



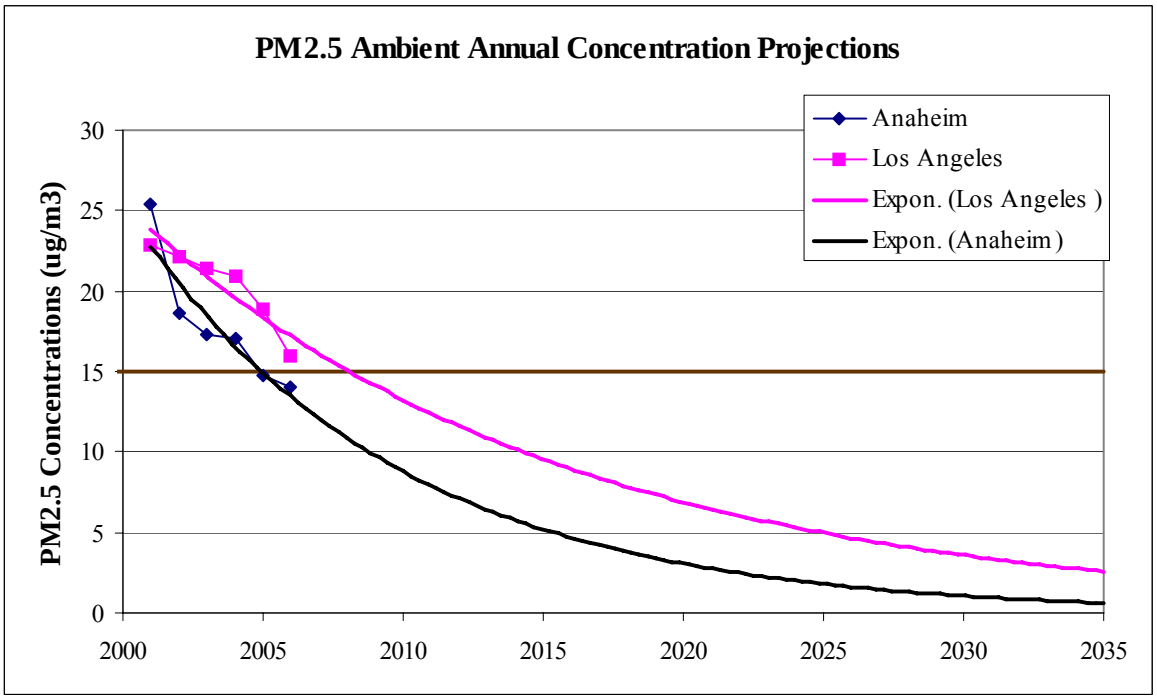
AQMD http://www.aqmd.gov/aqmp/AQMD03AQMP.htm

Figure D: Projected 24-Hr Concentrations



Based on data from EPA Web: http://www.epa.gov/air/data/monvals.html?st~CA~California, March 2007.

Figure E: Projected Annual Average Concentrations



Based on data from EPA Web: http://www.epa.gov/air/data/monvals.html?st~CA~California, March 2007.